WELCOME to TUBEWONDER!

Now, what does one write as an introduction to a User Manual?
The usual blah-bragging-blah stuff?

Well, TUBEWONDER is an unusual amplifier.
Period.

All I'd like to say is:

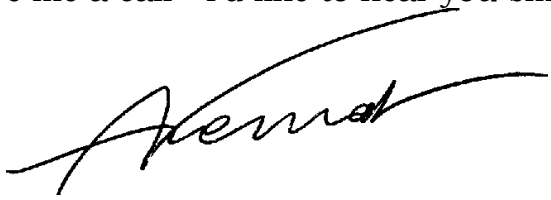
I wish you a lot of fun with your new TUBEWONDER amplifier.
It's simply a great amp. I know. I had a lot of fun building it.

About this Manual. Please read it.
There's some useful info that might come handy.

In short, set all knobs at 12 o'clock; try different footswitch combinations.
Twiddle the knobs to FREE *YOUR* TONE.
Forget the amp and just make music!

Most important: have fun!

Give me a call - I'd like to hear you smile.



Aleksander Niemand – Amp Creator Extraordinaire

© 2006, 2007 ANACON Technology

IMPORTANT SAFETY INSTRUCTIONS
BEFORE CONNECTING AND OPERATING THE APPARATUS -
READ ALL OF THESE INSTRUCTIONS!

- Save these instructions for later use.
- Follow all warnings and instructions marked on the apparatus.
- Keep this apparatus inaccessible to children and animals
- Do not use this apparatus in tropical climate
- Do not use this apparatus near water, i.e. bathtub, sink, swimming pool, humid basement, etc.
- The apparatus must be used in horizontal position only.
- Do not place this apparatus on an unstable cart, stand or table. A falling apparatus may suffer damage or inflict serious harm to persons!
- Slots and openings in the cabinet front, back and top/bottom are provided for ventilation and heat dissipation to ensure reliable operation of the apparatus and to protect it from overheating. These openings must never be blocked or covered.
- This apparatus should not be placed in a built-in installation unless proper ventilation is provided.
- This apparatus should not be placed near a source of heat such as a stove, radiator, or another heat producing apparatus.
- Use only the supplied power cord.
  Consult your dealer or local power company if you are unsure of the type of power available.
- Do not allow anything to rest on the power cord. Do not place this apparatus where persons will walk on the cord.
- Never break off the ground pin on the power supply cord.
- Power supply cords should always be handled carefully. Periodically check cords for cuts or sign of stress, especially at the plugs or the point where the cord exits the unit.
- The power supply cord should be unplugged when the apparatus is to be left unattended or unused for long periods of time.
- Should this apparatus be mounted in an equipment rack, rear support should be provided.
- This apparatus should be used only with a cart or stand that is recommended by ANACON Technology.
- Never insert objects of any kind into this apparatus through cabinet slots as it may cause damage to sensitive parts and touch dangerous voltage points or short out parts that could result in risk of fire or electric shock.
- Never spill liquid of any kind on or into the apparatus.
- Do not place liquid containers of any kind on the apparatus.
- Do not place any naked flame sources such as candles and the like on or near the apparatus
- Do not attempt to service this apparatus yourself as opening or removing covers may expose you to dangerous voltage points and dangerously hot parts or other risks. Refer all servicing to qualified service personnel.
- Unplug this apparatus from the wall outlet and refer servicing to qualified service personnel should any of the following occur:
  - Power cord or plug is damaged or frayed.
  - Liquid has been spilled into the apparatus.
  - The apparatus has been exposed to rain or water.
  - The apparatus does not operate normally when the operating instructions are followed.
  - The apparatus has been dropped or the cabinet has been damaged.
  - The apparatus exhibits a distinct change in performance indicating a need of service!
- Adjust only these controls that are covered by the operating instructions. Improper adjustment of any other controls may result in damage and will often require extensive work by a qualified technician to restore the apparatus to normal operating condition.
- Fuses: Replace ONLY with IEC127 (5 x 20 mm) type and rated fuse for best and safe operation!

© 2006, 2007 ANACON Technology

TO PREVENT RISK OF FIRE AND ELECTRIC SHOCK DO NOT EXPOSE THIS APPARATUS TO MOISTURE OR RAIN. DO NOT OPEN. NO USER SERVICEABLE PARTS INSIDE. REFER SERVICING TO QUALIFIED SERVICE PERSONNEL.

IMPORTANT ADVICE ON SAFETY!
READ BEFORE USE AND SAVE FOR LATER USE!

This apparatus has been built by ANACON Technology in conformance with IEC/EN 60065 and left the factory in safe working condition. To maintain this condition and ensure safe operation, the user must follow advice and warning comments found in the operating instructions.

THIS APPARATUS CONFORMS TO PROTECTION CLASS 1 (protectively earthed) AND MUST BE CONNECTED TO AN EARTHED MAINS POWER OUTLET TO MAINTAIN PROPER PROTECTION AGAINST ELECTRICAL HAZARDS.

ANACON TECHNOLOGY ONLY GUARANTEES THE SAFETY, RELIABILITY AND CORRECT FUNCTION OF THE APPARATUS IF AND ONLY IF:

- Assembly, extension, re-adjustment, modifications or repairs are carried out by ANACON Technology or by persons authorized by ANACON Technology to do so.
- The electrical installation of the relevant area of use complies with the requirements of IEC (ANSI) specifications.
- The apparatus is used and operated in accordance with the operating instructions.
- The unit is regularly checked and tested for electrical safety by a competent technician.

WARNING:

- If covers are opened or sections of casing are removed, except where this can be done manually without using any tools, electrically live parts can become exposed.
- If it is necessary to open the apparatus it must be isolated from all power sources. Please take this into account before carrying out adjustments, maintenance, and repairs and before replacing parts.
- Adjustments, maintenance and repairs inside the apparatus may only be performed by technicians trained and authorized by the manufacturer and who are aware of associated hazards.
- Loudspeaker outputs marked with the lightning symbol ⚡ can carry hazardous voltages. Before switching the apparatus on, the loudspeaker must be connected using cable recommended or supplied by the manufacturer.
- Where possible, all plugs on connection cables must be screwed or locked onto the casing.
- Replace fuses only with IEC127 (5x 20 mm) type and correct rating!
- It is absolutely forbidden to use repaired fuses or to short-circuit the fuse holder.
- Never interrupt the protective earth conductor connection.
- Surfaces which are equipped with the „HOT“ mark, rear panels or covers with cooling slits, cooling bodies and their covers, as well as tubes and their covers are purposely designed to dissipate high temperatures and should not be touched.
- High sound levels can cause permanent hearing damage. You should therefore avoid the direct vicinity of loudspeakers operating at high levels. Wear hearing protection if continuously exposed to high sound levels.

MAINS CONNECTION:

- The apparatus is designed for continuous operation.
- The set operating voltage must match the local mains supply voltage.
- The mains switch on the apparatus must be in OFF position before the mains cable is connected.
- Use only the supplied mains power cable.
- Never use any damaged connection cable. A damaged cable must be replaced by a new undamaged one or repaired by a competent technician.

© 2006 ANACON Technology

- Avoid connection to the mains supply in distributor boxes together with several other power consumers.

INSTALLATION SITE:

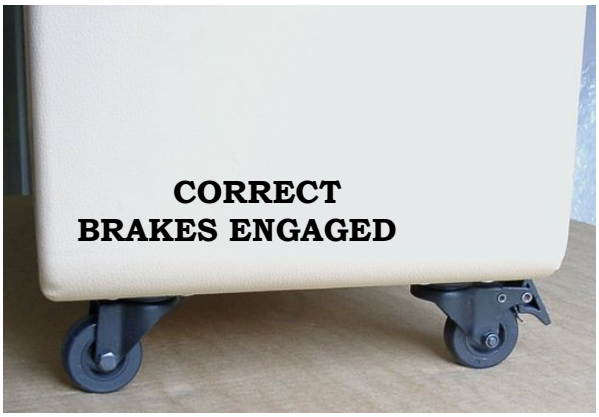
- The apparatus should be placed only on a clean, horizontal working surface.
- The apparatus must not be exposed to subsonic vibrations during operation.
- Keep away from moisture and dust.
- Do not place the apparatus near water, baths, washing basins, kitchen sinks, wet areas, swimming pools or damp rooms.
- Do not place liquid containers on the apparatus - vases, glasses, bottles etc.
- Ensure that the apparatus is well ventilated.
- Any ventilation openings must never be blocked or covered.
- The apparatus must be positioned at least 20 cm away from walls.
- The apparatus may only be mounted in a rack if adequate ventilation is ensured and if the manufacturer's installation instructions are followed.
- Keep away from direct sunlight and the immediate vicinity of heating elements or similar devices.
- Keep away from children and animals.
- Condensation can form inside the apparatus when it is moved from a cold to a warm location. This must be taken into account particularly in the case of vacuum (electron) tube units. Wait until the unit has reached room temperature before connecting to the mains power and switching on.
- Accessories: Do not place the unit on an unsteady trolley, stand, tripod, base or table.
- If the unit falls down it can cause personal injury and itself become damaged. Use therefore the apparatus only with the loudspeaker cabinet, trolley, rack stand, tripod or base recommended by the manufacturer or purchased together with the apparatus.
- Manufacturer's instructions must be followed and recommended setup accessories must be used when installing the apparatus. Any combination of apparatus and stand, including but not limited to, loudspeaker cabinet must be moved carefully. A sudden stop, excessive use of force and uneven floors can cause the combination of apparatus and stand to tip over.
- Additional equipment: Never use additional equipment that has not been recommended and approved by the manufacturer as this can cause malfunction or accidents.
- To protect the apparatus during bad weather or when left unattended for prolonged periods, the mains plug must be disconnected. This prevents the unit being damaged by lightning and power surges in the AC mains supply.

© 2006 ANACON Technology

IMPORTANT NOTE ON LOUDSPEAKER CABINET:

IF YOUR SPEAKER CAB IS EQUIPPED WITH CASTERS:

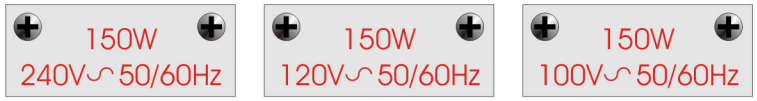
Make sure the casters are SECURED as in photo below on the right TO PREVENT ACCIDENTAL TOPPLING:



DO NOT ROLL THE CAB ACROSS FLOORS ETC WITH AMP HEAD ON TOP. CARRY THE AMP SEPARATELY.

© 2006 ANACON Technology

EUROPE



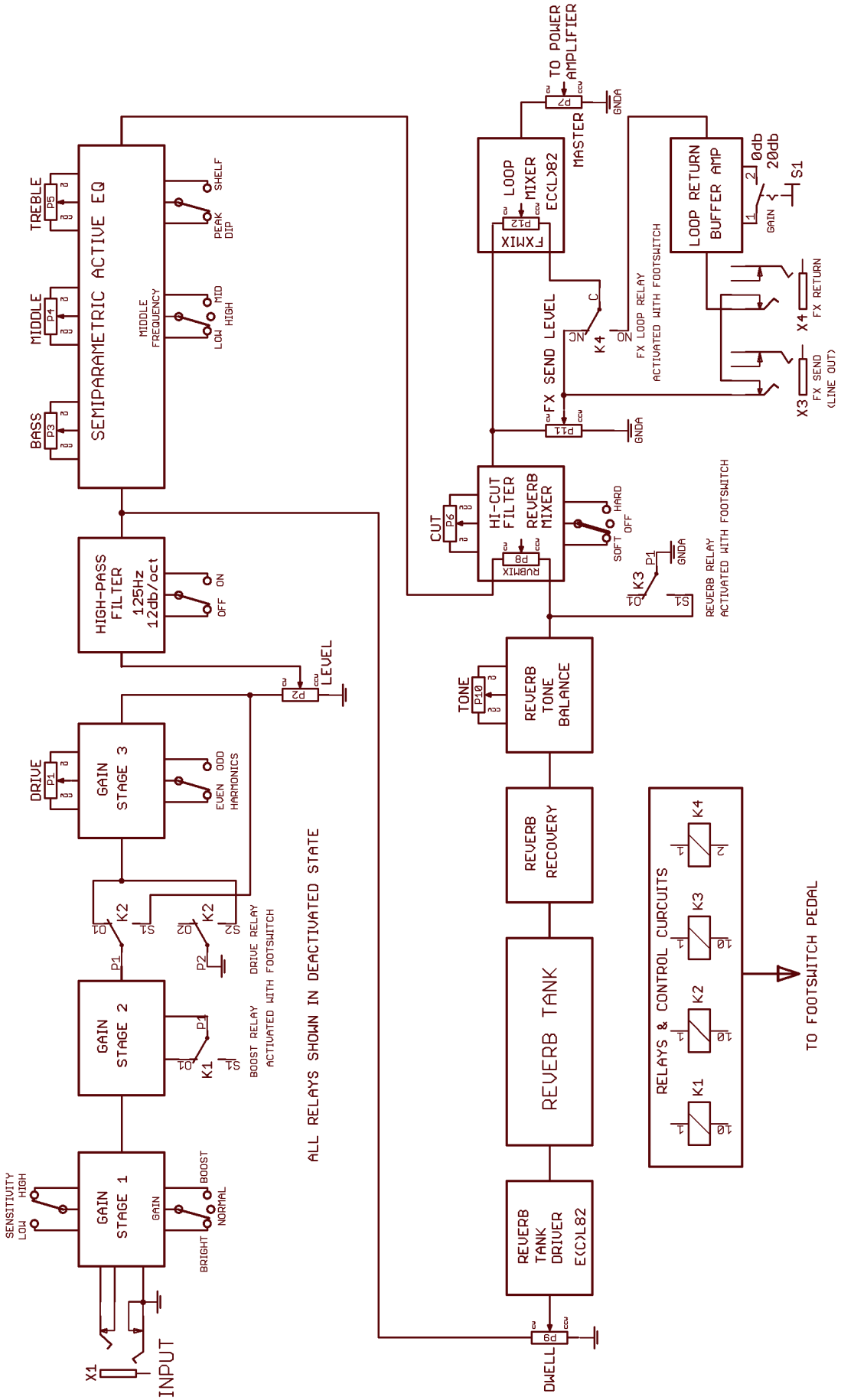
UK USA/CANADA JAPAN

Mains Voltage Identificator plates factory mounted according to country of delivery

© 2006 ANACON Technology

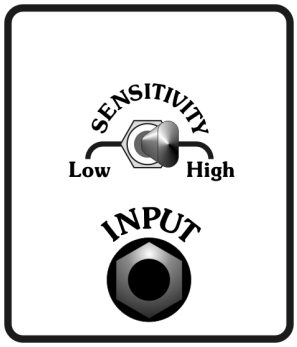
DESCRIPTION OF CONTROLS

All controls will be described in sequential order following the preamplifier block diagram:



© 2006 ANACON Technology

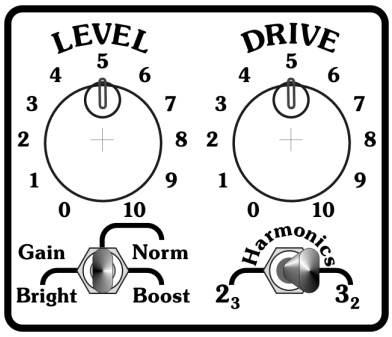
INPUT SENSITIVITY SWITCH



Sensitivity Switch is placed above the Input Jack. This 2-position switch varies the sensitivity and impedance of the amp's input.

- **High**: Input impedance 1 MΩ, no signal attenuation
- **Low**: Input impedance 120kΩ, 6db signal attenuation

GAIN & HARMONICS CONTROL



This section controls preamplifier's gain structure and distortion characteristics.
LEVEL - adjusts preamp output signal level to the EQUALIZER

Gain – this 3-position switch operates on the 1st gain stage and provides basic gain settings:

- **Bright**, left, +4db boost at 4kHz, onset at 400Hz
- **Norm**, center, standard setting
- **Boost**, right, + 4db gain full range boost

An additional gain control is activated by the Footswitch: 2nd preamplifier stage gain can be boosted by 4db for added crunch on clean sound.

DRIVE - controls overdrive characteristics in the preamplifier's 3rd gain stage. Adjusting the gain varies the amount of distortion.
This 3rd gain stages can be bypassed using the footswitch for clean to crunch sound.

LEVEL control is signalwise placed after the **DRIVE** control. It has no effect on the preamp distortion thus allowing the GAIN & DRIVE setting to be very sensitive to the guitar's volume control. However, **LEVEL** setting has influence on how much, if any, additional distortion will be generated in the **EQUALIZER**. This, together with MASTER Volume affects output power amp distortion.

Harmonics switch allows a choice of 2 different distortion characters:

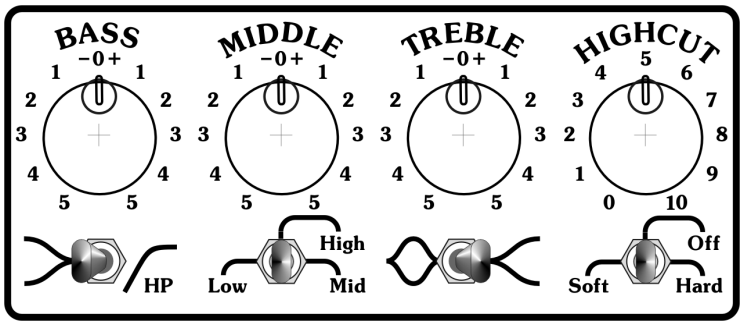
- 2/3, mostly even harmonics in the distortion spectrum
- 3/2, mostly odd harmonics in the distortion spectrum

The difference between these 2 switch positions is most audible when playing with moderate DRIVE and GAIN levels in the range of clean/dirty to

© 2006 ANACON Technology

crunch sounds, at maximum distortion the difference will be less noticeable. The sound in the 3/2 position will be a little brighter and edgier than in the 2/3 position.

SEMI-PARAMETRIC ACTIVE EQUALIZER



This is the **main TONE CONTROL section** of the TUBEWONDER amplifier. Although it may appear complicated at first it is very easy to use once you become familiar with the function of each control.

The Equalizer has 4 rotary controls:

BASS, MIDDLE, TREBLE and **HIGHCUT**

Additionally, **4 toggle switches** located below the potentiometer knobs provide extended control of the amplifier's tonal characteristics.

To familiarize yourself with the EQUALIZER begin by setting the 4 switches in following positions:

- **BASS** "**HP"** switch: Left (filter OFF)
- **MIDDLE** switch: Center (High)
- **TREBLE** switch: right (shelving)
- **HIGHCUT** switch: Center (Off)

Setting the **BASS, MIDDLE & TREBLE** potentiometers to **"-0+"** results in flat frequency response and NO SIGNAL LEVEL LOSS, as is the case with all passive tone controls.

When you turn BASS & TREBLE controls with the MIDDLE at the center "-0+" position the equalizer will behave like a standard active Baxandall-type tone control. You will notice that the boost/cut effect is strongest at the lowest and highest frequencies, respectively.

The type of chosen boost or cut characteristic is indicated by the graphic symbols at the respective switch:
Left off BASS switch and right off TREBLE switch is the symbol for "shelving" boost/cut.
The symbol right off TREBLE switch indicates "peaking" or "bell" shaped frequency response.
Toggle switch below BASS control: see HP filter section further down.

BASS
BASS control acts on a frequency band centered on 150Hz and leaves the lowest frequencies below about 70Hz unaffected. This allows emphasizing the bass range without boosting the lowest rumble.

© 2006 ANACON Technology

HP (High Pass) filter
This is an active 2nd order (12db/octave) 125Hz high-pass filter that can be switched in before the equalizer section. HP filter can efficiently remove boominess from some loudspeaker cabs and is very efficient in tightening up the bass response. Turn the filter on and boost bass at the same time for strong tight bottom rich tone.

MIDDLE
Most of the tone character and color is determined by the midrange and treble. TUBEWONDER's MIDDLE EQ-section has 3 switched mid frequencies and a dual function HIGH-CUT filter in addition to the TREBLE control.

The MIDDLE potentiometer together with its center frequency switch "Freq" is a very versatile tool that gives a very wide range of tone adjustment. The standard center frequencies are:

- **Low**: 375Hz
- **Mid**: 750Hz
- **High**: 1300Hz

TREBLE
TREBLE switch changes the boost/cut characteristic from shelving to peaking around 3.2kHz.
Set the switch to "peak/dip" position and turn the pot to about +3 … then flip the switch to shelving position: now the extreme treble range is also enhanced – that's where the shimmer is. It may be too much with a Telecaster or a Stratocaster's bridge or mid pick-up so you may want to back off on the control a bit.
Now turn the treble pot to about –4 or so …then flip the switch to peak/dip position: this will give you a darker tone but with the edge of pick attack cutting through.

HIGH-CUT
This is an active low-pass filter with 2 switched cut-off frequencies and variable slope.
The switch positions are:

1. Left: Soft 900Hz
2. Center. Off
3. Right: Hard 400Hz

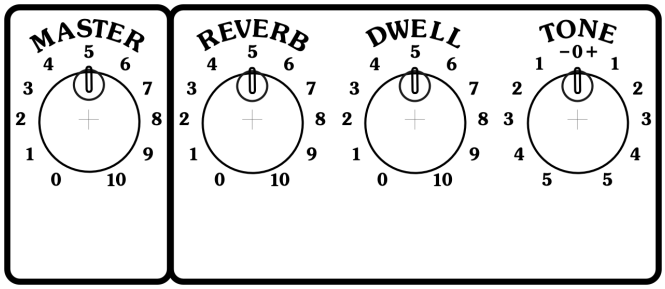
"Soft" position is mainly aimed at fine-tuning the shimmering end of the treble range while "Hard" setting is useful for achieving very dark tones and taming high order harmonics that may arise when playing with heavy distortion.
All controls provide ca +12/-12db of boost/cut at center frequencies in peaking position as standard. Bass & Treble in shelving position provide +/-15db control range at the extremes of their respective frequency ranges.

© 2006 ANACON Technology

EQUALIZER & DISTORTION

The equalizer is an active circuit i.e. each equalizer section has its own amplifier triode. With any control in +0- position the respective equalizer section has 0db signal gain and simply passes the signal through unchanged. When the control is turned to boost this section's gain increases and has it's maximum at the center frequency. What does it mean in terms of distortion? If the input signal to the equalizer as set by the LEVEL control is high enough it will cause the boosting equalizer section to overdrive and distort the signal. BUT: not all signals will be distorted, only frequencies at and around the boost center frequency will be amplified and eventually cause that equalizer section to overdrive and produce additional distortion. This is yet another way to tailor the tone and distortion character.

MASTER VOLUME, REVERB MIXER & TONE CONTROL



MASTER

Adjusts signal level to the power amplifier. The MASTER potentiometer is driven by a low impedance signal source and therefore does not affect tone.

REVERB adjusts the mix between dry and delayed signal

- Dry signal only at "0", delayed signal only at "10"
- A mixture of both at intermediate positions

DWELL

DWELL control is used to adjust the intensity of the signal driving the reverb tank. This reverb configuration resembles the sound of classic stand-alone spring reverb units.

TONE control affects only the delayed signal fed to REVERB mix control. Main Equalizer has no effect on the tone of the delayed signal except for HIGHCUT filter that affects the mixed signal. This is a tone balance type of control:

- "-0+" - flat frequency response
- "-5" - low-boost/high-cut
- "+5" - low-cut/high-boost

Boost/cut turnover frequency 700Hz
Boost/cut range: +/- 8db

© 2006 ANACON Technology

FX LOOP

The Tubewonder is fitted with an active cross fade parallel/serial effects loop. The loop can also be used for purposes other than connecting outboard effects units to the amplifier. See lower right corner of the preamp block diagram on page 7.

Pressing the “LOOP” switch on the foot pedal activates FX loop. The loop is in bypass mode if foot pedal is disconnected from the amplifier.

In active mode the K4 relay connects Loop Return Buffer output to the Loop Mixer (“C” and “NO” connected). FX Send Level potentiometer adjusts the input signal to the effects processor in the loop. It should be set to the maximum level that the processor will accept. Processed signal from the effects loop then goes through the Loop Return Buffer to the Loop Mixer.

Loop Return Buffer has a gain switch so that its gain can be set to accommodate either line level return signal (gain set to 0db) or instrument level return signal (gain set to 20db). This allows you to use most of the stomp boxes in the loop. You only need to adjust the Send Level properly.

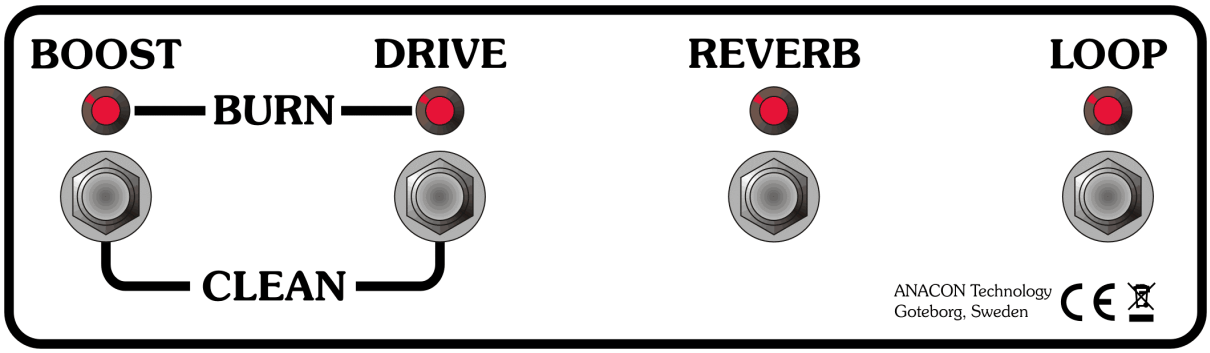
Cross fade (Mix potentiometer in the Loop Return Mixer adjusts the proportions between dry and processed signals. In fully counterclockwise position only the dry signal is passed to the Master Volume and fully clockwise only the processed signal is passed. This position is identical to having a serial loop. Intermediate positions give different mix of dry and processed signals.

The FX Loop can also be used as a Lead/Solo Level boost when no external processors are connected to the loop:

- Switch the loop off
- Set “FX Send Level” to 0
- Set “Mix” to ca 3 o’clock
- Set Loop Return Buffer gain to 20db
- Adjust Master Volume to comfortable playing level.
- Activate loop
- Adjust Send Level to required Lead volume level.
- Fine-tune the level shift by adjusting the Mix knob.

© 2006 ANACON Technology

FOOTSWITCH PEDAL



The Footswitch Pedal gives you additional control over the amp beyond the front panel controls.

BOOST – gain boost in 2nd preamp stage, adds crunch to clean sound
DRIVE – activates/deactivates the 3rd preamp stage with its Harmonic Overdrive

BURN: BOOST + DRIVE both ON give a high gain preamp, fine tune with the DRIVE control and Harmonics switch on the amp.

CLEAN: BOOST & DRIVE both OFF for clean dynamic sound

REVERB: Turns the Reverb On/OFF.

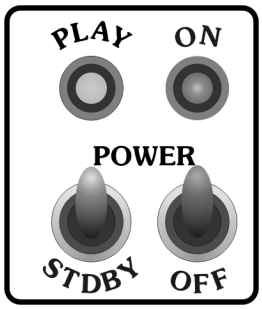
LOOP: Turns the FX loop ON/OFF; can be used as Lead/Solo boost, see description of the FX LOOP.

NOTE: With Footswitch Pedal UNPLUGGED from the amplifier following functions remain activated: BOOST, DRIVE and REVERB. LOOP will be inactive in bypass mode.

© 2006 ANACON Technology

POWER & STAND-BY Switches

THIS APPARATUS CONFORMS TO PROTECTION CLASS 1 (protectively earthed) AND MUST BE CONNECTED TO AN EARTHED MAINS POWER OUTLET TO MAINTAIN PROPER PROTECTION AGAINST ELECTRICAL HAZARDS.



Before turning the **POWER** on:

- Check that the available mains power matches marking on the label below amplifier's power socket.
- Make sure that POWER and STDBY switches are in the OFF position
- Turn MASTER volume control to 0

- Connect the loudspeaker to the amplifier
- Adjust the OUTPUT IMPEDANCE switch to match the loudspeaker
- Connect power cord to amplifier's mains socket
- Plug the other end of power cord to an earthed wall mains socket
- Turn **POWER** on**,** check that RED pilot light comes on, wait about **5 minutes before flipping the STDBY** switch to PLAY position.
- Flip the STDBY switch to PLAY; check that GREEN pilot light comes on.
  NOTE: Immediately after flipping the STDBY to PLAY there will be a 1-2 sec short humming sound coming from the loudspeaker. This is normal due to initial charging of filter capacitors in the amplifier's high voltage supply.
- It usually takes up to 10 minutes for all the tubes to reach their optimal stable working conditions.

Switching the amplifier off:

- Turn the MASTER volume control to 0
- Flip the STDB/PLAY to STDB position. This will allow all capacitors, especially those in the high voltage power supply to discharge properly.
- Flip the POWER switch to OFF position
- Remember to check loudspeaker connection before turning the power back on.

It is advisable to put the amplifier in STANDBY mode during intermissions, food breaks etc.

© 2006 ANACON Technology

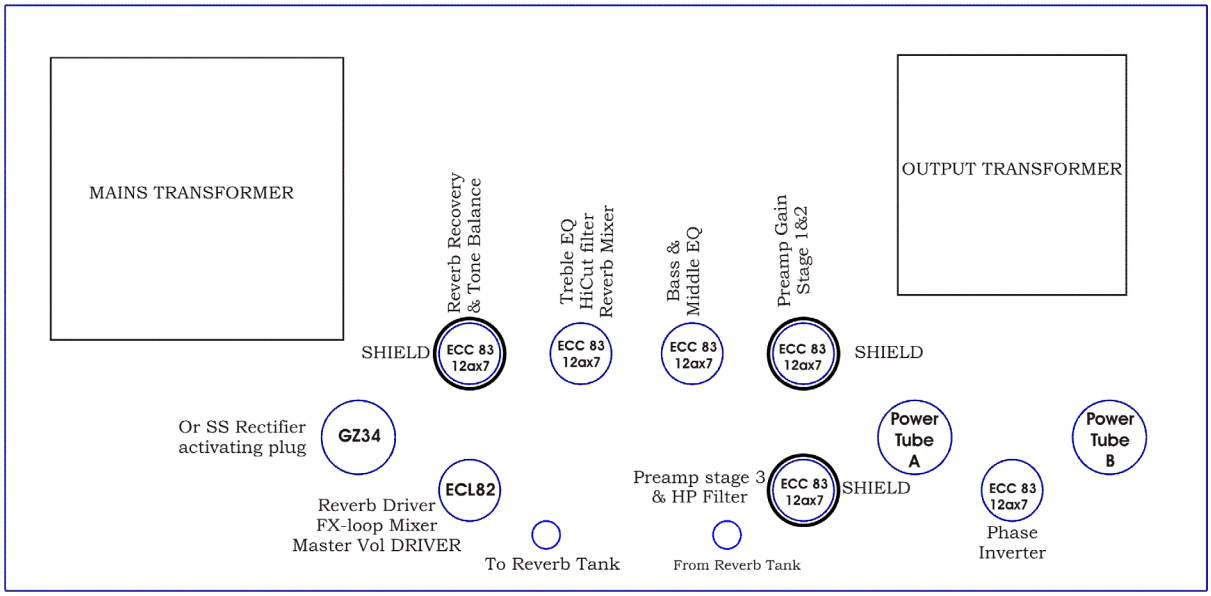
Mains Voltage

IMPORTANT NOTE: Your Tube wonder amplifier is factory wired for operation with mains voltage in your country i.e. 100, 120, 230 or 240Vac. The pre-wired mains voltage is indicated on the plate located below mains inlet socket on amplifier's rear panel.
Rewiring to different mains voltage must be performed only by a qualified technician according to factory instructions.

TUBE PLACEMENT

The Tubewonder is shipped from factory with tubes removed and packed in a separate box. Your dealer will have installed the tubes and checked the amp prior to delivering the amplifier to you.

Note: There can be different power tubes supplied with your particular amplifier depending on model ordered.
Tube type 7591 must not be replaced with any other type under any conditions.



TUBE PLACEMENT

TUBE OR SILICON RECTIFIER

The TUBEWONDER has a built-in silicon rectifier. It is activated by replacing rectifier tube with the supplied jumper plug. Power tube bias is factory adjusted for correct operation with the silicon rectifier.

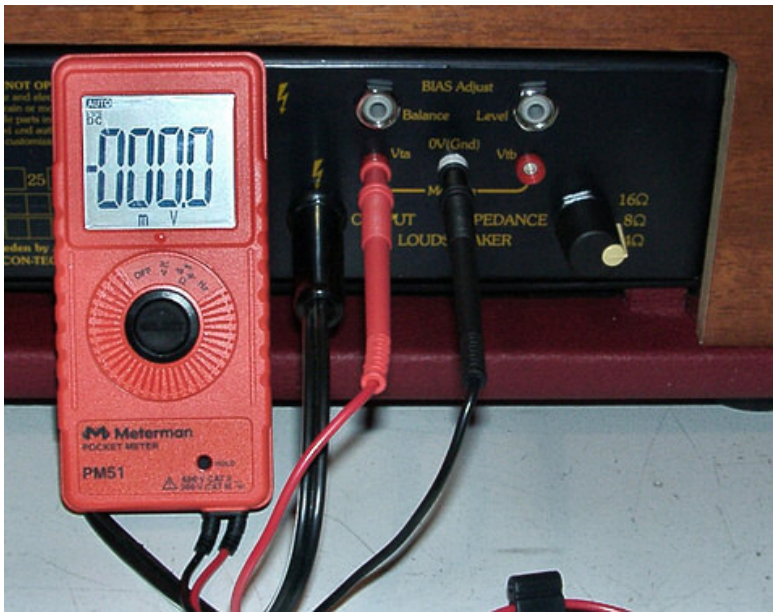
CHANGING TO/FROM TUBE/SILICON RECTIFIER MUST BE DONE WITH THE AMPLIFIER POWERED OFF AND DISCONNECTED FROM THE MAINS POWER.
ALLOW 15-20 MINUTES FOR THE AMPLIFIER TO COOL BEFORE ATTEMPTING THIS OPERATION.

BIASING PROCEDURE
THE BIAS VALUES SHOWN IN THIS PROCEDURE ARE FOR ILLUSTRATION ONLY.

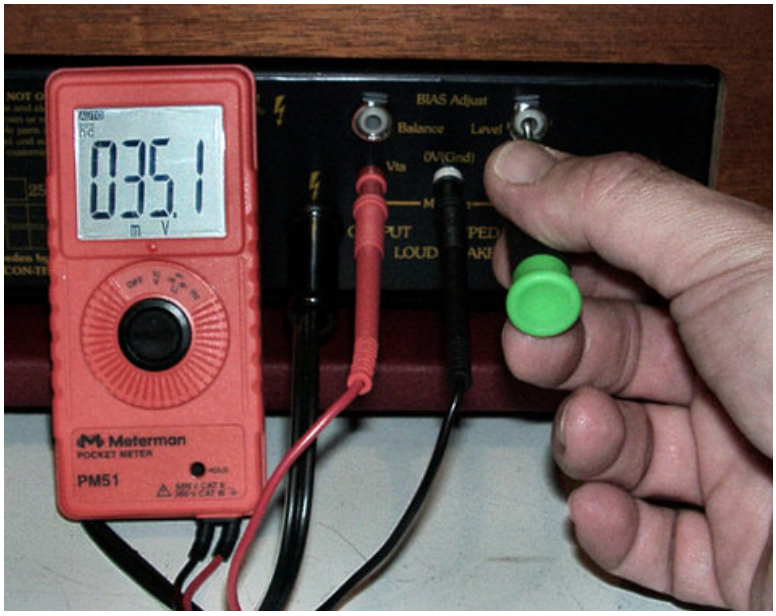
© 2006 ANACON Technology

RECOMMENDED BIAS RANGE IS 25-35 FOR EL34, 6L6 & 7591A POWER TUBES.

When do you need to check/adjust bias?
Your Tubewonder was properly adjusted at time of final test with nominal mains voltage and should not need any adjustments. It has also been checked by your dealer who installed the tubes upon delivery. The amp was delivered with the tubes that were used during final test and burn-in.
We recommend checking/adjusting bias after ca 200hrs of use or when replacing the power tubes.
You will need to readjust the bias when changing to/from Tube Rectifier from/to Silicon (using supplied jumper plug) It is recommended to set bias in the lower range when using Silicon Rectifier.



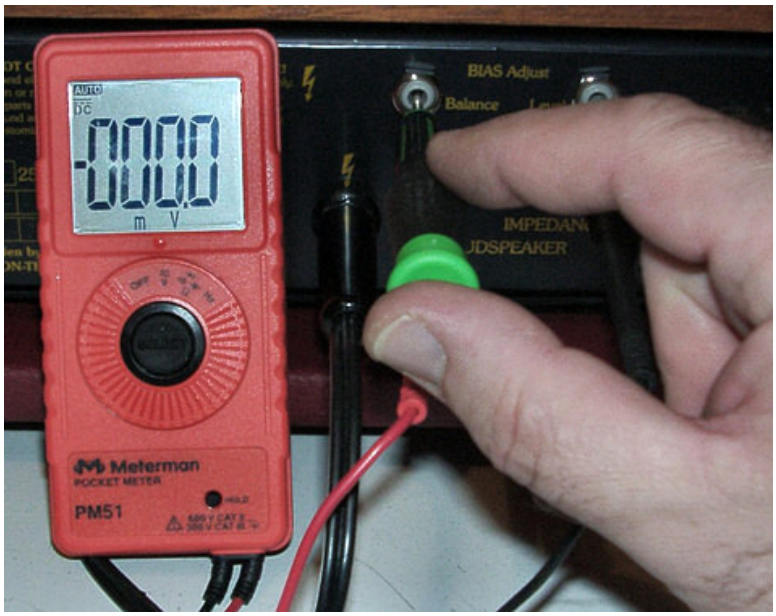
Connect the loudspeaker to the amp. Turn Level & Master to 0. Make sure POWER & STDBY switches are in OFF position. Connect mains power cord to the amp and mains outlet.
Connect a DMM set to DC Volts range 100 or 200mV to the test points as shown above: (-) lead to the white GND socket, (+) lead to red Vta socket.
Turn the mains power ON
Wait ca 5 minutes, DMM should read 000



Insert a screwdriver with a ca 3mm wide chisel into the “Level” trim pot, check that the chisel has engaged with trimpot adjustment screw by giving it a half turn in either direction. Note that both Level & Balance trim pots are 15 turn devices.
Turn the STDBY switch to PLAY
Observe the DMM, if the reading is higher than 35mV adjust it down by turning the screwdriver counterclockwise.

© 2006 ANACON Technology

Remove the DMM (-) lead from the GND test socket and insert it into the other red test socket Vtb. Observe the DMM reading, if it is higher than 2mV you need to adjust the Bias Balance.



Insert the screwdriver into the Balance trimpot and adjust for 00 reading on the DMM.
Let the amp warm up properly for about 15-20 minutes.
Take a new bias level reading every few minutes and at the end of warming up period make final fine adjustments of both Bias Level and Balance.

BIAS VALUE RANGE FOR 7591A TUBES:

SILICON RECTIFIER	25-30
TUBE (GZ34)	30-35

© 2006 ANACON Technology

DELIVERY CHECK

Detailed test/measurements report is archived at ANACON Technology HQ.

Model	
Manufacture date	
Serial No	
Power Transformer	
Rectifier	
Output Transformer	
Power Tubes	
Phase Inverter	
Preamp	
Reverb Driver	
Reverb Tank	
Pre-wired Mains Voltage	

OUPUT POWER

	Tube rectifier	Solid State rectifier
15 minutes warm-up time		
5% THD (clipping onset)		
Full clipping		

© 2006 ANACON Technology

SPECIFICATIONS *subject to change without prior notice. Nothing is so perfect that it can't be improved.*	**AMPLIFIER HEAD**		**LOUDSPEAKER CABINET**
Dimensions	575x275x250mm (WxHxD)		575x670x300mm (WxHxD)
Weight	19 kg		14kg unloaded to 25kg loaded
Construction	Chassis: 2mm brushed anodised welded aluminium with pigmented labels. Cabinet: 15mm birch plywood, front & rear panels 11mm birch plywood with mahogany/birch veneer.		100W, ¼ open or closed back 15mm birch plywood 19mm MDF baffle Speakers: Eminence 2 x 12" Private Jack 2 x 12" Cannabis Rex Or 1 of each placed diagonally Impedance 4 ohm
Covering	Leather touch vinyl, Two-Tone covering optional		Leather look vinyl Acoustone grill cloth
CONFIGURATION	**Model 35**	**Model 50**	**OPTIONS**
Output Power	35W at onset of power stage clipping - 5%THD	50W at onset of power stage clipping - 5%THD	4x10" or 1x15" Celestion, Jensen, Weber, etc speakers on request. Optional casters
Power consumption	150VA 100/120/230/240V 50/60Hz	230VA 100/120/230/240V 50/60Hz	
Tubes			
Preamp & EQ Reverb driver Reverb return Phase splitter Output Power Stage	1 x ECC803S, 2xECC83S 1 x ECL82 1 x ECC83S 1 x ECC83S		NOS tubes on request KT66, KT77, KT88,
	2x6L6GC or 7591S	2xEL34 or 6550	
Rectifier	1 x 5A4R or SS	Solid State	
Gain structure	3 gain stages in the preamp 3rd gain stage activated with footswitch 1 stage post EQ		Gain distribution between stages can be individually adjusted on request
Reverb tank	Accutronics medium delay 3 springs, short tank		Full range of Accutronics reverb tanks Mu-metal shielding optional
Reverb Dwell control	Adjusts reverb spring saturation level		Reverb Send switch Pre/Post EQ
Reverb "Tilt" Tone Balance, independent of main EQ Turnover frequency	+-8db 750Hz		
Active High-Cut filter –3db frequencies	500 & 900Hz		
Active Low-Cut filter	125Hz 12db/oct		
Active Bass EQ: peak-dip	+/-12db 150Hz center frequency		
Active Mid EQ: peak-dip	+-12db 350/700/1100Hz		Other frequencies on request
Active Treble EQ: switched peak-dip/shelving	+/-12db 3300Hz center frequency		
FX Loop Cross fade parallel/serial with SEND and WET/DRY mix controls Low noise FX-return buffer FX send can be used as LINE OUT Active loop return mixer Loop doubles as SOLO BOOST when not used for effects	preserved signal polarity/phase 0/20db gain, 330kOhm input triode section of ECL82		
Foot Switch Pedal	2nd gain stage boost ON/OFF 3rd gain stage "DRIVE" ON/OFF Reverb ON/OFF FX Loop ON/OFF		
Accessories: Padded 3 layer protective covers	With 2 side pockets		No pockets on speaker cabinet cover

© 2006 ANACON Technology

WARRANTY

Term of warranty: 24 months

ANACON Technology warrants this product free from defects in material or workmanship at the time of manufacture. This warranty is valid only in accordance with our warranty conditions from the date of purchase for the period indicated above.
In the event that this product requires servicing, contact an authorized ANACON Technology dealer.
This warranty applies exclusively to the device identified by the serial number in the "Delivery Check" table in this User Manual and is not transferable to other products.

Warranty conditions:
This warranty is void without the original sales receipt as proof of purchase. The terms and performance of warranty in other European and overseas countries are solely the responsibility of the dealers domiciled there.

Warranty period extension and/or transfer to 2nd owner

This warranty is valid for the first owner only. The warranty can be extended beyond the 24 months period or transferred to 2nd owner for an additional 12 months period but not exceeding a total of 36 months from date of original purchase.
To obtain warranty extension and/or transfer to 2nd owner the product must be inspected and, if needed, serviced by ANACON Technology or its authorized local dealer for a nominal fee before expiration of the primary 24 months warranty.

Warranty exemptions

Panel mounted and internal fuses, knobs, power cords are not covered by this warranty
Tubes are limited to 60 days warranty from date purchase

This warranty is void if

- ANACON Technology or its local dealer/representative determines that the product has been damaged by improper or faulty handling, installation, transport, or service, failure to comply with the User Manual's operating and safety instructions, application errors, misuse, accident, neglect, or as the result of a repair or service not carried out by ANACON Technology or an authorized dealer or as the result of normal wear.
- the serial number of the device has been removed, defaced, or in any other way rendered illegible.
- non-original parts or tubes have been installed in the device.
- power soaks, attenuators or similar peripheral devices have been used.

© 2006 ANACON Technology

In the event of a warranty service, ANACON Technology reserves the right to repair defective devices before providing a replacement.

Warranty repairs:

- Consult your dealer or ANACON Technology to obtain RA (Return Authorization) before sending the product for warranty repair.
- Pack the product in its original shipping box and ship it by means recommended by your dealer or ANACON Technology
- Shipping cost from customer to service site or factory to be covered by customer
- Shipping cost back to customer will be covered by dealer/ANACON Technology

This warranty is limited and is made in lieu of all other warranties express or implied. ANACON Technology is not liable for any damages and/or loss of revenues or profits resulting from the use or malfunction of the product.

If during an inspection of the product ANACON Technology finds that the defect is not covered by warranty or that the term of the warranty has expired, the customer is liable for all costs of inspection and repair including shipping both ways.

© 2006 ANACON Technology

Product Registration

Product Registration is required for the warranty period to commence.

Copy, fill in and send this Product Registration card to

ANACON Technology
BANGATAN 56
SE-41464 GOTEBORG
SWEDEN

REGISTRATION

Name_____

Address 1_____

Address 2_____

City_____

ZIP/Postal Code_____

Country_____

Phone_____

E-mail_____@_____

Website WWW._____

TUBEWONDER Model _____

Serial No:_____

Date of Purchase_____

Place of purchase/Dealer_____

☐ I have read and understood Safety Instructions included in the User Manual.

Signature_____Date_____

© 2006 ANACON Technology